now considered a necessity.

The need for broadband deployment in rural America has arrived in Berkshire County.

Now that we have defined the needs in our serving area, the solution is not as easy. As a small carrier, serving a rural area, the business solution is a difficult one.

The desire to build facilities is much greater than the financial means to do so; therefore, small companies are forced to run facilities in strategic areas and lease facilities from larger carriers, where available.

Small carriers incur the expense of investing in upgrades to switching equipment and the installation of new equipment to accommodate new technology.

And once the technology is there, delivering the service to the consumers can prove more difficult. New technologies for residential consumers have distance limitations.

DSL is a technology that provides high speed over a existing copper plant; however, customers must be located no more than 18,000 feet from the telephone company's central office on unloaded cable to take advantage of it. The cost to provide this service to customers in rural outlying areas can prove costly.

Despite these obstacles, Richmond continues to

move forward with the deployment of DSL in Berkshire County.

And although there is no single, all-encompassing solution for small companies, the following measures will enhance efforts to take advantage of these advanced services in rural areas: Establishing a separate rural exemption for advanced service, accelerate depreciation rates for advance service infrastructure investments in rural areas, be authorized interstate rate of return to reflect rural carriers, higher risks and cost of capital, and to rescind and refrain from imposing any technological limitations on small rural carriers, and to eliminate the restrictive cap on the rural high cost support funds.

Similar considerations have been proposed to Congress by several telecommunications organizations. Richmond hopes that these proposals and other market oriented deregulatory measures will help rural carriers do what they do best, provide modern, affordable state-of-the-art service to the rural communities of which they are a vital part.

Richmond is currently deploying DSL, and we are committed to staying in the telecommunications business and serving our neighbors with advanced services.

In closing, I think Richmond is an excellent example of success stories that exist all around us.

Thank you for your time.

THE HONORABLE JACK R. GOLDBERG: Thank you very much for that, for your suggestions.

Part of this panel is to come up with some ideas on how to solve some of these problems and you presented some ideas for the Joint Board.

Next is Dr. Kenneth Gordon and the National Economic Research Association.

Dr. Gordon is a former state regulator in both Maine and Massachusetts and is uniquely qualified to discuss some of these issues.

DOCTOR KENNETH GORDON: Thank you.

I'm going to shift gears a little bit and talk a bit more about the framework within which this industry operates; that is to say, I'm going to talk about some regulatory issues, which, while they haven't been highlighted this afternoon, nevertheless provide the context within which what we're talking about takes place.

Let me confess to a bias, first of all. And the bias is that regulation should focus on structures and incentives and not on outcomes. So we should really be trying to see how people are incented and what difficulties they encounter.

I have a confession. While I'm a telecommuter, I don't have a high-speed -- any high-speed connectivity. As I thought about it before I came down here, I realized I had

called my telephone carrier, Bell Atlantic, and they were not able to do DSL where I live in Windham, Maine.

Then I called my cable company, which is Adelphia, and I had trouble finding somebody who even knew what I was asking for back at the local office, and now I realize I have no line of sight to Downtown Portland from my house, so it may be a little bit of time before I get the kind of connectivity we've been talking about.

And that leads me to my question: Does that mean there is a public policy problem that I should be approaching my regulator, whether it's Tom Welch, down there at the other end, or Commissioner Powell, a little closer here?

The short answer is, I don't think so, yet.

And I want to tell a bit why.

The setting that we are involved with is that innovation pervades the telecom industry and the information services industries worldwide. And there's a strong sense that if you're not part of that, you're going to be left behind economically, socially and perhaps in other ways.

But there is also very little certainty on how that can best be achieved at the moment. What technologies will be used, what service providers will you turn to, or what combinations will you use, because we're pretty sure that one size will not fit all.

This is not a situation in which administrative direction or administrative decision making are at their best. Rather, as the telecom information revolution unfolds, the marketplace has to be the driver in deciding when and how new technology should be deployed.

Competition can and should be used throughout the industry. And I believe this option, market reliance, is as applicable to rural areas as it is elsewhere.

So far as I know, being rural is not a recognized market failure in economics, albeit some technologies may have higher costs in rural areas, but high costs don't constitute a market failure, either.

What is needed is to make markets work efficiently everywhere, not just in rural areas.

And I have about six points I'd like to make in that connection.

The first thing is that we really do have to have some patience in this process. Revolutions in technology rarely role out ubiquitously and overnight.

Rhetoric notwithstanding, it is not necessary, nor is it desirable to do everything at once. And so nonuniformity of service early on, I don't regard as a problem per se. Technologies will be varied and will receive trials in different places, where some will succeed and some will fail. That's part of the learning process and

we subvert it at our peril. We don't know what the winners are going to be.

Where, for example, is video dial tone? As of late, something that people were pretty excited about not so very long ago.

Economics teaches us that the efficient pattern of diffusion of new technologies is typically gradual at first, then picking up speed to relatively rapid adoption, and then plateauing off at some level. I would suggest we're still at a very early stage. And I'm not at all sure what saying diffusion is slow even means.

Secondly, we need to have recognition that price matters, and that to rely on markets also is relying on prices that signal the true costs of providing services. Prices need to be aligned with costs, even in rural areas. Then and only then will the technologies that are best suited, serving these areas, have a good chance to work.

Underpricing the competition will work. It will lead to the underpriced service succeeding.

A critical requirement for a strong future, another critical requirement for a strong future has already been mentioned, but I'll repeat it, the policies should be technologically neutral, and they should be provider neutral.

Cable, telephone, wireless, any and all of those

are likely to be pieces of the solution, and that's happening on a worldwide basis.

I saw a piece in the Economist just the other day about wireless being diffused in Morocco, of all places, at a rate of quadrupling in just six months to some 800,000, about to overtake their wire line service in very fast fashion.

Wireless does have broadband capability, as we've heard, and I think it's likely to be a part of solution in rural areas.

Thirdly, preserving correct infrastructure investment incentives also means cost based pricing everywhere, at the wholesale level, from charging the correct price for information service provider bound traffic, as Massachusetts to its credit, has tried to do, to proper wholesale discounts on resell and UNIs. All of those things are important in this process.

Fourth, keeping universal service narrowly focused on services that are broadly acknowledged to be essential components in our society, and on addressing that relatively small group that cannot afford access to what we all agree, really is essential.

In a dynamic, competitive market, we cannot afford to layer on a huge tax or subsidy burden; and that is what universal service is, regardless of how it is collected and

distributed and labeled.

Moreover, I would just have to say at the moment, I think we're relatively clueless about what the specifics of universality should be in the advanced services area. It just isn't clear.

Fifthly, isolating one large segment of the industry under an asymmetrical regulatory regime is very unlikely to foster the goal of efficient infrastructure deployment.

And here I am referring to the long-distance exclusion that we need to get past as quickly as we can, subsidized UNI availability, that should sunset in my opinion. And I would also say the same about the resale discount. It needs to sunset at some point.

Finally, we need to keep up the spectrum policies that have become ever more flexible and helped enormously in deploying new services.

The FCC, I have to say, has done a great job on this, compared to what I thought possible when I first joined the Office of Plans & Policy in 1980. That was 20 years and we couldn't get the Commissioners to use words like auction or market in the same paragraph with spectrum, but you've come a long, long way from that, and it's been a very, very good thing for this whole process. And I think it'll be especially so for rural areas.

To conclude, we need a dynamic process of innovation to be allowed to move forwarded, supported by clear investment incentives, clear opportunities for private risk bearing, continued detailed heavy regulation simply cannot provide that.

THE HONORABLE JACK R. GOLDBERG: Thank you very much.

Dr. Michel Guite is from Vermont Telephone. He's going to try to sell us his 39.95 package.

DOCTOR MICHEL GUITE: Okay, I'm the last speaker of the day ---

FROM THE AUDIENCE: No, you're not.

FROM THE AUDIENCE: One more.

DOCTOR MICHEL GUITE: Okay, well, instead of my six minutes, I'm going to try to get it done by three minutes, so when you hold up your card, I hope I'm going to be done.

Our ad says, that is in the Vermont newspapers for the last couple of months and for the next couple of months. So it's full page, it says: VTel DSL 39.95 per month. Fastest. Coolest. Cheapest!

VTel is the first telephone company in Vermont to offer high-speed DSL for blazingly fast data. Ideal for internet, and it saves you money. Sign-up by June 1 -- it's extended to July 1, by the way -- and get a free modem, free

activation and VTel cap with the logo "VTel, A Phone Company Doing Cool Things."

So what to me is really intriguing about this is notwithstanding all the analysis about where demand is and what incentives are needed and the like, it's just as clear as could be in our 14 towns and villages in Vermont, that there is a prairie fire of demand going on. It's just not going to stop. You can incent people, you cannot incent them, it's almost that everyone here, including me and Julie, who is with me from Vermont Telephone back there, are irrelevant to the process. It's just there's so much demand for high bandwidth that it's going ahead almost regardless.

If we didn't do it, the cable operator would do it. The cable operator's pricing is going to be very similar to ours. We're offering now a half-million bits per second for $40 a month and it'll soon be up to a million bits and the 2 million and 3 and 4 million easily within the next two years or so.

The demand in our 14 towns in pretty well universal across the board. There's nowhere where we're not getting hundreds of cards and letters, asking for the service. We're putting in between 40 and 100 a day, which for a company with 20,000 customers is really an awful lot of demand. Our trucks are going nonstop. We've got people coming in one after the other, picking up free modems. The

customers just love it.

So rural Vermont, where our customer base divides into three categories, is a very deep demand location, and the demand there isn't really too different to Downtown Lowell. The three categories are, I'll tell you, the two resistors and then the takers.

One set of resistors out of our 20,000 customers, probably a thousand lines are people that have second homes there and that want us to be back in the 1920s or 1930s. So when we gave up party lines, the last 400 people that had them were people like, say, the Chairman of Harvard Business School, who said, what, getting rid of a party line, that's outrageous.

(Laughter.)

DOCTOR MICHEL GUITE: The second group of naysayers are -- and I understand these and I'm sympathetic with these, are the elderly people who are really, really very concerned with cost. There's some number of people, not so many, but perhaps 10 percent of our customers, who really are tremendously economically limited, and we get 2,000 a month coming in to pay their bill by hand to save a 35-cent stamp, and to those people, anything that looks like it could contribute to cost really hurts them. And I don't know how you solve that problem.

But leaving aside those two groups, the huge bulk

of the customer base are really eager to get high-quality, moderately priced services, and they're loyal customers, they're good customers and they really respond to the innovations that we're out there and providing.

I'd like to mention that Peter Bluhm out here with our Public Service Board, who is in the back, can you kind of raise you hand, and John Sayles with the Department of Public Service, really incented us in a sort of a complex way that we could spend time about later, if you wanted to, to accelerate our plans for this, and it really did work out well.

Our total costs per month for customer service, not for just DSL, but for Adeltone (phonetic), are around 15 to 18 percent below Bell Atlantic's.

Our cost for DSL is 25 percent below Bell Atlantic's.

Our day-to-day offering and structure costs are probably 15 to 20 percent below Bell Atlantic's.

And our customer service excellent delivery ratios are probably some percentage points above Bell Atlantic's.

In other words, we're really, just because we're able to focus on our rural area, doing the same job they would do if they really wanted to focus on the rural area, but it's our priority, it's not their main priority.

So as a result, we're doing a better job than they

would be doing in rural areas.

And, Commissioner Powell, I'd say that the USF piece is really for us a key part of we're able to do this.

Thank you.

THE HONORABLE JACK R. GOLDBERG: Thank you, Dr. Guite.

And, finally, our State Senator, Marge Kilkelly of the State of Maine. And she's going to discuss some experience that they have had on rural ---

MS. MARGE KILKELLY: A little tiny island.

THE HONORABLE JACK R. GOLDBERG: --- success stories.

MS. MARGE KILKELLY: Thank you. Thank you for opportunity to be here today.

I am Marge Kilkelly, I'm a state senator. I represent Midcoast District in Maine that is comprised of 22 small towns and one year-round island.

My background is in community economic development and my work is in rural economic development, especially as it relates to stabilizing and growing our traditional businesses, such as farming, commercial fishing, forestry and outdoor activities, such as hunting and recreational fishing.

For the past several years, I've been associated with the Island Institute, a not-for-profit in Rockland,

Maine, that focuses on the quality of life on Maine's 14 year-round unbridged island communities.

Each year the Institute sponsor an Islanders Conference to bring residents of the year-round island communities together to share learnings and experiences with each other.

This isn't a simple task, as the islands stretch from Casco Bay in the South to Blue Hill Bay in the East and many don't have daily ferry service. Once the folks are on shore, it's another hour or maybe two to get to a central meeting place.

In 1998, as I was planning my first Islanders Conference, I received a call from Belinda Dollaver on Swans Island. She was very concerned that the most serious problem facing her island was not being addressed at the conference, and that was lack of any affordable internet access.

On four down east islands that were served by TDS, all calls were mainland toll -- all calls to the mainland were toll calls and all ISPs were on the mainland. The per minute charge was as high as 64 cents a minute.

The populations on these islands range from 40 year-round residents to 400 year-round residents. The municipalities, the businesses and residents were either paying that price or not accessing the internet at all, and

that becomes less of an option as more and more state information and forums are more readily available on-line than in any other way.

Ms. Dollaver is a real estate agent and she was faced with potential buyers who were interested in the community but unwilling to purchase in a town that did not have reasonably affordable internet access. This applied to seasonal as well as potential year-round residents.

The Island Institute took on the challenge of working with the communities, the telephone company and others to resolve the issue. We met with folks from TDS and financing specialists from USDA Rural Development.

There were many proposals reviewed and may of them cost hundreds of thousands of dollars of equipment and required folks on the islands to manage the systems.

The Institute even explored the idea of creating a new system using wireless technology through a local provider. Institute staff and folks from the provider were sent to the islands by boat to determine the sight line and tower height requirements to access all four islands from Rockland.

Again, a very expensive proposal, initially but the advantage of paying off the hardware, accessing grants and community development funds and eventually having a truly affordable system seemed positive.

About that time the residents of Swans filed a request with the Public Utilities Commission for assistance regarding the cost of service.

The process took on a new life at that point, and TDS developed a package for the islands, that includes 30 hours a month for $29 and a charge of $1 per hour over that 30. That service has been in place for just about a year.

It's of assistance to families for personal use, but it's of less assistance to business development or attraction. This isn't a criticism of the company, but an acknowledgment of the challenges of serving these small isolated communities.

In preparing for this meeting, I contacted a few of the folks that are now on-line who had not been on-line before, to determine how it's working, and wanted to give you some personal stories to add to all we've heard about today from business plans and statistics and other things.

Both women I talked to are from Frenchboro, Long Island. Frenchboro is a small island with approximately 40 year-round residents. There's a ferry three times a week and any time you come off the island by ferry, it's at least one day before you can get back on.

There are no stores on the island. There's a post office, a school with two students this year and a library

which is open only in the summer. It is a wonderful community filled with families who have lived there for generations and families who came as soon as they could. The primary income is from lobster fishing.

I served on the Frenchboro Future Development Corporation Board for two years. This group has created a land trust and built several houses to rent and lease to purchase for families interested in moving onto the island.

One of the major barriers to having families move to the island and stay is isolation. While the men are active in lobster fishing, the women who might want to operate a business take college courses or telecommute are unable to do so.

Obviously, the current situation is an improvement over the past, but it can be better.

Maine has lost most of its year-round island communities since the turn of the century, and the current communities are working diligently to sustain themselves.

Access to technology is a key factor in whether or not they will be successful.

This particular community represents Maine rural living at its finest and most challenging. Folks live here because it represents a quality of life that's impossible to capture anywhere else. The lobstering is good, creates good employment, beautiful harbors and bays, fir forests and a

close-knit community that cares about one another.

The families on these islands want their children to grow up and have every option and advantage that any other child would have, and that includes access to technology.

Loreena Beal is on the school board and is also the postmaster. Her family went on-line as soon as it was available. Her husband is a fisherman and she's the mother of two children, a fourth grader and a four-year old. The 30-hour a month limit works for her family, now, but her biggest concern is that when her younger child is in school and the older child is up in school, that there won't be enough time and she'll have to limit that.

But as a school board member, she now can receive all the material from the superintendent's office by e-mail and she can communicate with them on-line, as well, which has been of great assistance to her and her volunteer work for the community.

Rachel Bishop is the mother of a five-year old. She was the first person to get on-line when the service became available As she has no extended family on the island, the on-line connection is essential to her ability to communicate with her family, either in Maine or other parts of the country. She, also, now can stay in touch with many of the seasonal residents of the island.

Rachel is a certified teacher, and although she is not currently teaching, she wants to maintain her certification. In order to do this, she must take continuing education classes. If she took them on the mainland, it would mean staying in-shore overnight at least one night for every class. She's now able to access on-line courses.

The 30 hours a month is an issue for her, but still more inexpensive than travel and accommodations. Her husband did not use the computer at the library at all, but now they have access from their home and he's also on-line. This works well around his fishing schedule, while the library connection didn't.

Some folks on the island are not doing so well. A retired profession who is assisting in some research on alternative lobster bait is quite hampered by the expensive access. He finds numerous ways to communicate, but at times the focus is more on how to communicate and not on the substance of what he's communicating, and that results in a considerable loss of productivity.

I'm even more concerned about the folks who choose not to live on the island or other rural isolated areas because they cannot have reasonable access to internet services. One of the major advantages of being on-line is the option of telecommuting or operating a business on-line.

This should be a great advantage to rural isolated communities, but in fact it has caused some of them to become more isolated, not less.

If you have a choice to live in a community that has unlimited internet access and one that does not, which will you choose for your business?

Sprawl is major issue in Maine, as in other states. If people who want to live in a rural environment feel forced to move to areas around urban communities in order to have adequate access to technology for their businesses or families, then sprawl is the result. Former greenbelts become housing developments. Farmland, open space and wildlife habitat are lost. Creating or supporting improved opportunities for on-line service in rural isolated areas would decrease this pressure.

The island had some advantages in resolving their access problem.

First, those islands, their isolation was so obvious that there was no question about its seriousness.

Second, they had an advocacy group to focus on their plight.

And, third, they had folks like Belinda Dollaver, who after five years of frustration, still would not take no for an answer.

Well, what about the other rural areas where

either low population density or some of the small independent phone companies create the same barrier that we saw here?

Rural economies are fragile. Public policy, especially federal policy, must prioritize access to the internet for these communities, island and mainland, in the same way they took on the challenge of rural electrification and telephone services in years past. The issues are the same, but the technology is different.

Infrastructure development must equate internet access with road, rail and port construction improvements. All are important, actually essential to maintaining a diverse, healthy rural economy, and our total economy, like any other system, is only as strong as our weakest link.

The solutions to adequate access to technology for rural areas need to be developed by rural people. For too many years we've been asked to whittle down the edges of our problems to fit urban solutions. It hasn't worked before and it's unlikely to in this case.

So I ask that a special effort be made to identify unserved and underserved communities and populations, to enlist local people in the development of the solutions to help identify their needs.

A willingness to accept that in the same way that the government can help the moving of people and goods into

rural areas by roads, there may need to be help moving information through affordable internet access, and it can be essential.

Last fall I was in Southern Hungary and I visited a small town, 5,000 people, where through it, arrangement with the mayor and a business, they've been able to create access for every home in the village. When he talked about that project and showed me the education program for it, he said, we're trying to catch up with the West.

He was looking to the West, and assuming that all of us were moving forward at the same pace. And I'm just offering to you the thought that there are a lot of us that aren't moving forward at the same rate and we need to pay attention to those people, as well.

When we talk about 10 or 20 percent of the people not having access, we're talking about real people in real communities and real families and we need to pay attention to their needs.

Thank you very much.

THE HONORABLE JACK R. GOLDBERG: Thank you, Senator.

Your talk was a good reminder that while much of what we hear has to policy that affects many people at the 40,000-foot level. Real people are really affected.

We'll begin with questions, now, and I'll start

with Commissioner Powell.

THE HONORABLE MICHAEL K. POWELL: I guess I've got to come up with a question.

THE HONORABLE JACK R. GOLDBERG: You better. I want to see how good you are.

THE HONORABLE MICHAEL K. POWELL: It's useful to finish with a panel about rural success, but it's also kind of interesting to go back to the beginning.

I've read a lot of analyst reports and academics. They seem to always to conclude with some certainty that won't work.

You all are a fitting contradiction, somehow.

Someone earlier mentioned that MMDS is not going to come unless MCI, Worldcom and Sprint can consummate the largest merger in the world.

But, yet, I'm sitting here, introduced to someone who is attempting to do it at a much smaller scale, I would assume. Your 50 customers would pale in comparison to the scale efficiencies of that merger.

I would invite all of you to say something about that. I mean, you've made a lot of emphasis about the demand will be no different, and probably even in some instances greater than it might be in other communities that have other alternatives to some of these services.

And I know the capital constraints. You mentioned

quite eloquently the challenge to them, but you're doing them. And I'm sort of curious, you know, what your response is to the seeming dismissal in some circles of the ability of small carriers to serve these communities.

That's a wide open question.

Was that good enough?

THE HONORABLE JACK R. GOLDBERG: That was fine.

THE HONORABLE MICHAEL K. POWELL: All right. You made me proud.

DOCTOR DAVID BONNER: I think one of the things that we learned and probably that Bell Atlantic learned is it's surprising what the market really is.

In our area, when we first started with the diffusion project, folks said, well, you'll never sell all those lines, you'll never use all those lines.

In five months the Adirondack Area Network placed as many lines as Bell Atlantic had the previous five years in our area. It kind a drives home the marketing. If they go and they ask each individual institution, they're going to say, well, no, we can't afford it at that rate.

But if, again, going back to this same theme, if you aggregate and pool your customers together, it's surprising what a real market there is out there. If you go individually, of course, you're not going to see a large market.

So I think that's a lesson learned that really could come to that point, in that just knowing what the rural population needs, much as we just heard down here, it may be simple. But if you leave it up to the big companies to try and find a uniform policy, I think it's going to be very difficult to do.

MR. RODERICK N. ANSLEY: I'd like to speak to the end portion of your question.

I also heard the comment about MCI, Worldcom and Sprint. I thought, what do they know that we don't know?

Not long ago, I used to work for Frontier, which is now Global Crossing, as a result of a merger, and I was one of 9,000 employees in a company that was still a peanut compared to MCI, Worldcom.

And the difference between 9,000 employee and 80 employees is pretty substantial in how the company works.

We made our decision to invest in DSL technology with two people in my office and an EXCEL spreadsheet in 20 minutes. That's the way we did it. It cost us probably a hundred dollars to make that decision, and we went forward, and we spent a lot more money and a lot more time in the MMDS decision; but nevertheless it was probably nothing compared to what a large company would spend.

What I'm getting at here is that our cost structure is incredibly lower and we're currently closer to